

Inventions & Innovation Emerging Technology

Titanium Matrix Composite Tooling Material for Aluminum Die Castings

In the aluminum die casting process, H-13 steel shot sleeves force molten aluminum into a die for casting. However, the conventional shot sleeve wears out after 20,000 to 40,000 casting cycles because of hot corrosion, which washes out the bottom of the sleeve. A new titanium-alloy composite material has a significant advantage over conventional technology because of its resistance to aluminum soldering and erosion. The material, CermeTi®, can be implemented as an entire shot sleeve or as a partial liner inserted into an existing H-13 shot sleeve.



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